

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : FUJI XEROX CO LTD

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(72)Inventor : MUKAI HIROKAZU
 KURAMOTO SHINICHI
 MACHIDA YOSHINORI
 YUU ICHIBAI

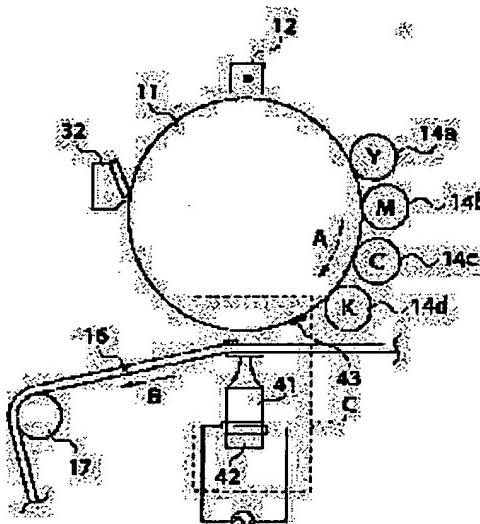
(54) IMAGE FORMING DEVICE AND TONER IMAGE TRANSFER METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent a defective image such as irregularities in a toner image such as blurring and a hollow character, etc., in the case of transferring the toner image formed on an image carrier to a recording medium which is separated from the toner image.

SOLUTION: A horn 41 and a piezoelectric transducer 42 are arranged so that the horn 41 may come into contact with the rear side of the intermediate transfer belt 16 at a 1st transfer position where the toner image on the image carrier drum 1 is transferred to an intermediate transfer belt 16.

The shortest distance between the drum 1 and the belt 16 is set so as to be the half-wavelength of the generated ultrasonic wave, then, a standing wave is formed. A force of emitting sound toward the belt 16 is applied on the toner particles 43 lying on the image carrier drum 1 in an area up to the standing wave node, then, the toner particles move. The distance between the image carrier drum 1 and the belt 16 becomes longer before the toner particles reach the standing wave node, then, the standing wave disappears, and then, the toner particles uniformly move and reach the belt 16.



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CLAIMS

[Claim(s)]

[Claim 1] The image support by which a latent image is formed in a front face, and the latent-image means forming which forms a latent image on this image support, It has a development means to form a toner image on this image support by developing with a toner the latent image formed on said image support. In the image formation equipment which imprints further the toner image formed on said image support to a record medium at a record medium an imprint or once imprinting on a medium imprint object, and is established on a record medium in this toner image The imprint dimension member and transferred object in an imprint from said medium imprint object or this medium imprint object to [from said image support / from a record medium and said image support] a record medium By the part by which it is moved so that it may separate after the support side of a toner image and toner image transferred side which are imprinted approach gradually and serve as predetermined spacing, and said imprint dimension member and said transferred object counter Image formation equipment characterized by having a supersonic vibration generating means to make spacing of this imprint dimension member and a transferred object generate a standing wave.

[Claim 2] Said ultrasonic generating means is image formation equipment according to claim 1 characterized by being what contacts the amplitude dilator connected to the ultrasonic vibrator or this ultrasonic vibrator to either said imprint dimension member or a transferred object.

[Claim 3] Image formation equipment according to claim 1 or 2 characterized by setting spacing of the support side of said toner image, and said toner image transferred side as the integral multiple of the half-wave length of the supersonic wave to generate in the field which imprints said toner image.

[Claim 4] Claim 1 characterized by having charge grant equipment which gives a charge to the rear face of said transferred object at the opposite section or its downstream of said imprint dimension member and said transferred object in the field which imprints said toner image, image formation equipment according to claim 2 or 3.

[Claim 5] Image formation equipment according to claim 2 characterized by carrying out assumption arrival of the toner image imprinted by carrying out melting of the toner using the heat which said transferred object in contact with said ultrasonic vibrator or said amplitude dilator generates by mutual contact.

[Claim 6] Claim 1 characterized by having the heating apparatus which carries out assumption arrival by fusing the toner image imprinted by the downstream of the opposite section of said imprint dimension member and said transferred object in the field which imprints said toner image, claim 2, image formation equipment according to claim 3 or 4.

[Claim 7] The toner image which the toner particle was made to adhere selectively and formed it on image support The toner support side of an imprint dimension member where it is the imprint approach which imprints on a record medium or a medium imprint object, or is imprinted from a medium imprint object to a record medium, and said toner image was supported, The toner image imprint approach characterized by making spacing of this imprint dimension member and a transferred object generate a standing wave by the part by which it moves so that it may separate after the transferred side where a toner image is imprinted approaches gradually and serves as predetermined spacing, and said imprint dimension member and transferred object counter.

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[Claim 8] The toner image imprint approach according to claim 7 which gives a charge to the rear face of said transferred object, and is characterized by ** which carries out assumption arrival of the imprinted toner image in the field which imprints said toner image by the opposite section or its downstream of said imprint dimension member and said transferred object.

[Claim 9] The toner image imprint approach according to claim 7 characterized by heating the downstream of the opposite section of said imprint dimension member and said transferred object, and fusing and carrying out assumption arrival of the imprinted toner image in the field which imprints said toner image.

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